

Notice of Allowability

Application No.

09/923,963

Examiner

Susy N Tsang-Foster

Applicant(s)

MATSUURA ET AL.

Art Unit

1745

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the after-final amendment filed on 4/2/2004.
2. ☒ The allowed claim(s) is/are 4-7.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/141,140.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Allowable Subject Matter

1. Claims 4-7 are allowed.

2. The following is an examiner's statement of reasons for allowance:

The closest prior art of record are Mori et al. (USP 5,506,070) and Yamamura et al. (USP 5,879,429).

Mori et al. (USP 5,506,070) disclose the following: (1) mixing 3 to 20 weight percent of cobalt powder to the hydrogen storage alloy (col. 3, lines 34-38), (2) mixing 5 to 10 weight percent copper powder and 3 to 10 weight percent cobalt powder to the hydrogen storage alloy (col. 3, lines 41-44), (3) coating the hydrogen alloy powder with 1 to 10 weight percent nickel and 3 to 10 weight percent cobalt (col. 3, lines 45-48), and (4) mixing 5 to 10 weight percent nickel powder and 3 to 10 weight percent cobalt powder to the hydrogen storage alloy (col. 3, lines 48-52).

However, Mori et al. do not disclose the critical range of using 0.1 to 2.5 weight percent of a metal fluoride, a metal iodide, or a metal sulfide to deposit a catalytic metal that is dotted on the layer of hydrogen absorbing alloy oxide in a granular state in a metal hydride alkaline storage cell as claimed by applicants. The amount of catalytic metal deposited would clearly be less than 2.5 weight percent in the claimed product by applicants since the catalytic metal is from the metal compound and the amount of catalytic metal dotted on the oxide layer of the hydrogen storage alloy is less than 3 weight percent of metal that is disclosed by Mori et al.

Applicants disclose a showing of unexpected results on page 11, in table 1 of the specification to indicate the criticality of the amount of metal compound used, that is, 0.1 to 2.5 weight percent. It would not have been obvious to one of ordinary skill in the art at the time the invention was made to use less than 3 weight percent of a catalytic metal for coating on the hydrogen storage alloy since Mori et al. disclose using 3 weight percent or greater of a catalytic metal and do not suggest or teach using less than 3 weight percent of a catalytic metal to be deposited on the hydrogen storage alloy.

Furthermore, Mori et al. do not disclose the critical range of 0.1 to 2.5 weight percent of a metal compound to be deposited on the hydrogen storage alloy. It is also unclear whether an oxide layer is present on the surface of the hydrogen storage alloy of Mori et al.

Yamamura et al. (USP 5,879,429) disclose depositing cobalt or copper on the surface of the hydrogen storage alloy (col. 5, lines 18-20) by using an alkaline heat treatment. Yamamura et al. do not disclose the same process as that of applicants to deposit catalytic metal on the oxide layer of the hydrogen storage alloy in a dotted granular state.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. The terminal disclaimer filed on 4/2/2004 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,322,925 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Any inquiry concerning this communication or earlier communications should be directed to examiner Susy Tsang-Foster, Ph.D. whose telephone number is (571) 272-1293. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at (571) 272-1292.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Susy Tsang-Foster
Primary Examiner
Art Unit 1745